



Technical Assistance Services for Communities

Midnite Mine Community Workshop Questions and Answers

**Community Questions from the Midnite Mine Workshop on October 29, 2014,
and Answers from Technical Advisor, Terrie Boguski**

November 4, 2014

- 1. Water treatment plant. The attendees expressed interest in making sure that the water treatment plant effluent is as clean as possible and want the National Pollutant Discharge Elimination System (NPDES) permit to be consistent with tribal regulations for surface water or drinking water, whichever is more stringent.**
 - Technical Assistance Services for Communities (TASC) recommends that community members review the new permit when it is available and compare the discharge quantities to the current permit and to tribal regulatory standards.
- 2. When will the new water treatment plant be built and online, relative to other cleanup activities?**
 - The timeline in the remedial design indicates that the new water treatment plant will be constructed in Phase 1 of the cleanup (2015 – 2018). Page D-2 of Appendix D in the 90 Percent Design report states that the existing water treatment plant will be demolished during Phase 2 of the cleanup if the NPDES permit (water discharge permit) is completed for the new water treatment plant.
- 3. The attendees would like more details about the plan to remediate the east drainage area. What will happen to removed vegetation? Will it be placed in one of the pits? If so, has there been an evaluation of the effect of decomposing vegetation in the pits? How will it be determined whether vegetation is impacted by radiation and is considered hazardous waste?**
 - In Phase 1, mine waste from the upper Eastern and Western Drainages is scheduled to be placed in Pit 4. In Phase 2, a primary objective is “to remove all waste from, and meet soil and sediment cleanup standards in the Western and Eastern Drainages so that surface water runoff in these drainage basins can be released to Blue Creek without retention and treatment at the WTP [water treatment plant].” See Appendix D, page D-2 of the 90 Percent Design report. The mining companies estimate that 30,000 cubic yards of contaminated sediment will be removed from the Eastern Drainage and placed in Pit 3 (see Table D-6, page D-32).

- Page D-31 of Appendix D of the 90 Percent Design provides the following information about the handling of vegetation removed during site preparation. TASC did not find any text specifically about vegetation from the east drainage area.

Vegetation removed during site preparation will be disposed of as a thin layer in Pit 3. The volume of material is estimated to be approximately 20,000 cy [cubic yards] based on tree counts conducted in May 2014. This material will be treated as low-activity/reactivity when placed within the WCA [Waste Containment Area]. Due to the small volume relative to the size of the WCA, differential settlement due to decomposition of this material over time is expected to be insignificant so long as the material is placed in a thin, relatively uniform layer over the WCA.

4. The attendees would like to know the specific plans for stormwater management in the east drainage during and after cleanup of this area.

- Drawings in Appendix O of the 90 Percent Design report show proposed locations for stormwater management features, including berms and erosion blankets. Figures 1 through 5 show stormwater flow paths and sediment controls for each phase of the construction – Early Works, Phase 1, Phase 2, Phase 3 and end of remediation. Each drawing designates where stormwater controls will be used. Areas marked with “sc” identify specific stormwater controls shown in Figure 6. The stormwater control options include: silt fences, pine needle wattles, diversion berms/dikes, erosion control blankets, catch basins and pipe outlets. For the Eastern Drainage area, two permanent diversion berms are indicated in Figure 5. These are listed as the East Berm and South Berm and are located along the Eastern Drainage channel. Figures 3 and 4 show erosion control blankets also being used along this drainage channel.

5. When effluent discharge to the east drainage is discontinued, this will affect established wetlands because the water flow will be considerably less. What is the plan for wetlands restoration?

- Appendix M of the 90 Percent Design report contains information about wetlands and wetland restoration. Table M-2 indicates that the haul road cleanup, drainage cleanup and Blue Creek pipeline require compliance with Executive Order 11990 - Wetlands Protection. Table M-3 states that “unavoidable impacts to wetlands will be avoided, minimized, and mitigated for in the Western, Central, and Eastern Drainages” and “pre-mine wetlands impacted will be replaced at a 1:1 ratio”, to comply with the Clean Water Act.
- Table D-1 indicates that “all work will be performed in a manner that limits harm to wetlands.” This is in response to Performance Standard Number 2.3.18 B.iii in the Consent Decree Statement of Work.
- After the October 29 meeting, EPA indicated to TASC that the wetlands restoration plan is still in progress and discussions are underway about how

wetlands will be restored. The Eastern Drainage area is not a jurisdictional wetland because the waste treatment plant discharge is the primary source of water. This fact may affect plans for restoration of that wetland.

- TASC recommends that community members tell EPA of any specific concerns so that these concerns can be considered during the wetlands restoration planning.

6. Attendees would like to see the comments that EPA makes on the 90 Percent Design. Is this possible? How?

- The community has several ways to see EPA comments on the 90 Percent Design.
 - Community members can ask Randy Connolly for a copy. EPA sends courtesy copies to Randy Connolly, Spokane Tribe's Superfund Coordinator.
 - Based on the community's request conveyed through TASC, EPA can post EPA comments to the Midnite Mine ftp at <ftp://ftp.epa.gov/reg10ftp/sites/midnitemine/2-technical-documents/>. EPA posted their comments on the 30% design to the Midnite Mine ftp. EPA comments on the 60 Percent Design are included in the response to EPA 60 Percent Design comments in Appendix MM of the 90 Percent Design report, which is also posted to the Midnite Mine ftp.
 - Interested community members can ask EPA to email a copy directly to themselves.
 - Community members will be able to read the EPA comments on the 90 Percent Design in the 100 Percent Design report, which will include a response to EPA's 90 Percent Design comments.

7. The attendees want more details about the Rhoads Property borrow site. To what depth will soil be removed? Will exposed rock pose a radiation or acid rock drainage hazard? How can the site be made to look natural after removing so much soil? Will property outside of the designated borrow area be affected in repairing the borrow area, i.e., will soil be removed from other areas to contour the borrow site, etc.? The attendees want more information about the revegetation plan for the Rhoads property.

- The community may like to know the reasons why the Rhoads Property Borrow Area was selected. Section D13.1 (Construction Material Considerations) in Appendix D of the 90 Percent Design states:

The Rhoads Property Borrow Area soils were selected as the borrow source for the cover material because the fine-grained material: 1) promotes vegetation growth, 2) minimizes the final cover thickness based on radon emanation evaluations (which in turn reduces the number of truck loads to cover the Site), and 3) provides an erosionally stable cover

material (which likely will require less long-term maintenance). The most significant GSR [green and sustainable remediation] opportunity regarding the cover material borrow source is limiting fuel consumption and greenhouse gas emissions associated with necessary truck haul distances. The Rhoads Property Borrow Area is located adjacent to the RA [remedial action]. The proximity of the Rhoads Property Borrow Area significantly reduces the fuel required to transport the cover soils to the Site thereby significantly reducing the greenhouse gas emissions. The total number of truckloads necessary to cap the Site has been minimized by selecting the Rhoads Property Borrow Area soils versus other borrow sources which would likely require a thicker cover. Rhoads Property soil also provides a more favorable growth medium for plants and is less erosive than the other borrow sources evaluated, all of which support GSR principles.

- Attachment C-1 of Appendix C of the 90 Percent Design contains the Rhoads Property Plan of Operations and Reclamation. TASC encourages community members to review Attachment C-1 for more specific information about the operations that will happen on the Rhoads Property. Highlights from Attachment C-1 are listed below:
 - The plan includes removing approximately 4 to 16 feet of the existing excavatable material on the Rhoads Property for use as cover at Midnite Mine.
 - The excavated surface of the Rhoads Property will be re-contoured (see Section 3.0 of Attachment C-1). A minimum of 1 foot of residual subsoil will be left in place at the bottom of the excavations prior to re-contouring. Salvaged topsoil will be placed on top of the residual subsoil such that approximately 2 feet or more of growth medium substrate (residual subsoil and topsoil) will remain in the reclaimed areas.
 - Radon levels at the Rhoads Property are not expected to change based on a 2011 investigation report. The amount of radium in the soil and in the underlying rock is about the same; therefore, the radon emissions are not expected to change when soil is removed from the site.
 - Ground water monitoring wells will be installed to measure contaminants in the ground water from upgradient and downgradient (upstream and downstream for ground water) locations. Ground water will be sampled twice a year before, during and after soil is removed from the Rhoads Property.
 - The current schedule for construction at Midnite Mine indicates that excavation on the Rhoads property will take place in three phases during 2018, 2021 and 2024. Excavated areas will be reclaimed after excavation has been completed and while active excavation is still occurring in other portions of the borrow area. This will reduce the amount of disturbed area

exposed to erosion at any given time, thus reducing the potential for sediment transport from disturbed areas. Soil excavation will occur during the summer and early fall seasons (i.e., June through October) when conditions are relatively dry in this portion of Washington state and stormwater runoff and sediment transport are less likely. The tribe will be notified whenever primary sediment control structures have been constructed (e.g., along the southern property boundary) to allow for inspection and approval before associated borrow activities commence.

- Borrow material will be trucked to Midnite Mine via a temporary haul road constructed on the Rhoads Property and a new permanent access road traversing the east side of the Rhoads Property.
- After the meeting on October 29, EPA told TASC that acid rock drainage is not expected to be a problem at the Rhoads Property when rocks are exposed to air and water because the mineral content of the rocks in this area are not as acid-forming as the minerals in the mined area.

8. Attendees reported that they have observed deer inside the fenced area of Midnite Mine from vantage points outside of the fenced area. One person reported seeing deer drinking from the water in the mine pits. Attendees expressed concern that the fence does not appear to keep large game out of the mined area.

- EPA provided the following information to TASC after the meeting on October 29:
 - For safety, it is important that community members not go inside the fenced area.
 - The mining company has onsite staff (including tribal members) weekday (24 hours a day Monday through Thursday, and dayshift Friday) when the water treatment system is operating. During the winter downtime, mining company staff are onsite Monday through Friday during the day to ensure site security, do water treatment plant maintenance, check pumps and water levels, inspect and repair the fence, etc. The monthly progress reports on EPA ftp include the results of the monthly fence inspection, which includes whether wildlife or access points are observed. These reports are available at <ftp://ftp.epa.gov/reg10ftp/sites/midnitemine/3-progress-reports-and-performance-monitoring/>.
 - Large animals can sometimes get inside the fence, despite the fence and automatic gate. When this is observed, the mining company drives them out. This can be challenging due to the size of the site.
 - EPA believes that the fence has greatly reduced site access for large mammals. EPA is open to reviewing information with the community and mining company and discussing whether and what specific improvements are called for.

- TASC recommends that community members who observe large animals within the fenced area from vantage points outside of the fenced area share this information with EPA and mining company staff. If community members think that too many large animals are getting inside the fenced area, they may want to ask EPA to meet and discuss how improvements can be made to keep animals out.

9. Attendees expressed concern about the safety of eating game meat from the area because deer are seen within the fenced area of Midnite Mine. Are there any health studies or studies of the meat to assure people that the game is safe to eat? People say they have been told not to eat the organs or bone marrow of game. What is the basis of this warning?

- The 90 Percent Design report briefly mentions interim measures such as signs, advisories, and community outreach, to minimize public uses of surface water, sediment and affected food plants outside the waste containment area until cleanup levels are met that are required by the Record of Decision.
- TASC recommends that the community ask EPA to review outreach efforts to inform community members of these interim requirements and take any needed steps to ensure that community members are fully informed of all existing restrictions on consumption of plants and animals in the area. TASC further recommends that community members provide EPA with suggestions for successful outreach on this topic, including fact sheets, better signage, advertisements in local media, etc.

10. Attendees want more details about the possibility of landslides damaging the effluent pipeline from the water treatment plant to Roosevelt Lake. What will happen in the event of a landslide that damages the pipeline? How will the damage be noticed and repaired?

- Attachment J-3 of Appendix J of the 90 Percent Design is a geohazard evaluation for the proposed pipeline that will convey treated water from the water treatment plant to Roosevelt Lake. The focus of this investigation was to identify potential geologic hazards and geotechnical constraints (such as active landslides and potentially unstable slopes) for the proposed pipeline alignment and also to provide preliminary recommendations to minimize the risk to the pipeline.
 - Five areas of concern were identified along the proposed pipeline alignment. These are shown in Figures 3, 4, 5 and 6. Area 1, at the mouth of Blue Creek, is an active landslide area (Appendix J, Attachment J-3, page 5).
 - The geohazard evaluation report recommends additional investigation to evaluate the feasibility of stabilizing the slope through the landslide area sufficient to allow for construction, operation and maintenance of the pipeline through this area. The report also states that the feasibility of relocating the pipeline to avoid the landslide area has not been evaluated.

However, one conceptual alternative pipeline alignment identified during field reconnaissance is shown on Figure 3.

- TASC recommends that the community ask to be kept informed of the status of any additional investigations of the landslide area and future decisions about the location of the pipeline.

11. The attendees expressed concern about erosion of the final cover of Pits 3 and 4. They want to know how often the cap will be inspected and how the inspection will be conducted and how the inspectors will know that erosion is happening.

- The community may like to know that Table D-2 in Appendix D of the 90 Percent Design states that “erosional stability of the cover system has been designed for the 100-year, 24-hour event” (page D-16). Also, Section 2.7 (Long-term Effectiveness) of Attachment D-3 in Appendix D of the 90 Percent Design states that “cover thickness loss due to erosion is estimated to be less than 1 inch.”
- TASC recommends that community members request EPA to review procedures for measuring erosion at the site to be sure that the cap remains protective indefinitely. One option discussed in the October 29 meeting is the placement of a brightly colored fabric or webbing within the top foot of the cover soil as demarcation for repair of the soil cover due to erosion. Other options may also be effective.

12. The attendees were very interested in the monitoring that will occur after remedy completion and during the five-year review process.

- TASC recommends that this be the topic for a future workshop.

13. Attendees asked about the possibility of radon accumulation in the pits during remedy construction. Will radiation monitoring identify whether there are high levels of radon on a daily basis? Is there a specific plan for protecting workers in the event that radon levels within the pits are high at any specific time during the work day?

- The Radiation Protection Plan in the 90 Percent Design contains this text (Appendix L, Attachment L-1, Section 4.3, page 13):

Prior to initiation of RA activities, historical data on radon concentrations in air will be reviewed and general baseline levels established. However, in general, radon gas monitoring is not expected to be necessary for outdoor work at the Midnite Mine because the radon emanating from the surface materials is dispersed before the particulate decay products (the major contributors to dose) build up and in general radon exposures are expected to be low. However, based on review of the historical data, if deemed necessary by the RSO [Radiation Safety Officer], radon-222 and/or decay product concentrations will be measured using Alpha Track Detectors (ATDs) and/or the Kusnetz Method, or equivalent, as described

in RPP-SOP05.

TASC recommends that community members request that EPA require radon monitoring in the pits while workers' breathing space is below the natural grade of the landscape. This will ensure a conservative approach to worker safety. Radon is the heaviest known gas (nine times denser than air) and could possibly accumulate in the pit area.

Contact Information

Technical Advisor
Terrie Boguski
434-957-6700, ext. 266
tboguski@skeo.com